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SEP 23 2004 PATENT & TRADEMARK OFFICE

TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No. ITL.0427US

In Re Application Of: **Chi M. Cheung**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/628,759	July 31, 2000	Aaron W. Carter	21906	2625	4801

Invention: **Communicating Information From an Imaging Device to a Processor-Based System**

COMMISSIONER FOR PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed on **August 5, 2004**

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Signature

Dated: **September 20, 2004**

Timothy N. Trop, Reg. No. 28,994
Trop, Pruner & Hu, P.C.
8554 Katy Freeway, Suite 100
Houston, Texas 77024
(713) 468-8880
(713) 468-8883 (fax)

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Cynthia L. Hayden

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:	Chi M. Cheung	Art Unit:	2625
Serial No.:	09/628,759	Examiner:	Aaron W. Carter
Filed:	July 31, 2000		
For:	Communicating Information From an Imaging Device to a Processor-Based System	Atty Docket:	ITL.0427US P9133

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APPEAL BRIEF

Date of Deposit: September 20, 2004
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Cynthia L. Hayden

Cynthia L. Hayden

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REAL PARTY IN INTEREST

The real party in interest is the assignee Intel Corporation.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

Claims 1, 2, 4, 5, 7-13, 16-21, and 23-26 are rejected and claim 22 is objected to. Each rejection is appealed.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

Referring to Figure 1, a digital imaging device and motion detector 10 may be coupled by a bus 12 to a processor-based system 14. The bus 12 may be compliant with the Universal Serial Bus specification.

The digital imaging device and motion detector 10 may include a digital still or video camera or scanner as two examples. The digital imaging device and motion detector 10 includes a motion detector such as an infrared motion detector. The motion detector may be integral with or separate from the imaging device.

The digital imaging device and motion detector 10 captures a depiction of a captured image including a plurality of pixels that make up a digital frame. A plurality of frames of video may be captured and transmitted over the bus 12 to the processor-based system 14. See specification at page 2, line 15 through page 3, line 10.

Information about whether or not motion was detected may be added to the video stream that is transmitted between the imaging device and motion detector 10 and the processor-based system 14. In one embodiment of the present invention, streaming video may be forwarded over the bus 12 in the form of a series of packetized frames. Each frame may be formed of a plurality of digital packets. The packets may include information about the particular colors and intensities captured for one or more pixels by the imaging device and motion detector 10.

A packet header, for example, may include information about the captured intensity of one or more pixels and color information. The brightness information may include a plurality of bits including a most significant bit and a least significant bit. Information about whether or not motion was detected may be provided within a given packet in place of the least significant bit of brightness information, in one embodiment.

The motion bit may be provided with each frame or may be provided with a plurality of pixels making up a particular frame. As another example, the motion bit may be provided as the least significant bit in the brightness data for one particular pixel of each frame. That is, the data associated with the same pixel in each frame is modified to include the motion bit. See specification at page 3, line 11 through page 4, line 13.

The serial bus interface 218 (Figure 2) packetizes the captured pixel data and forms frames made up of pixel information including intensity information. The serial bus interface

218 may substitute a bit indicative of the information received, over the bus interface 228, from the infrared motion detector 226. That is, the infrared motion detector 226 may send a signal indicating, in each frame interval, whether or not motion was detected.

If motion is detected, that information may be provided by the processor 222 to the serial bus interface 218 for incorporation within the packetized video data. In one embodiment of the present invention, the least significant bit of the brightness information for at least one pixel of each frame may be removed and replaced by a bit indicative of whether or not motion was detected during the interval of a particular frame. See specification at page 4, line 14 through page 6, line 8.

As a result, the motion information may be transmitted to the processor-based system 14 as part of the ongoing video stream. In the processor-based system 14, a decision may be made, upon detection of the motion bit, as to what action should be taken with the video stream that is being received. In one embodiment of the present invention, if the motion bit indicates motion, the captured video may be stored on the processor-based system 14. If the motion bit indicates no motion, the video may be discarded. Thus, a surveillance or motion activated video storage system may be implemented.

The motion detection software 400, shown in Figure 4 and stored on the hard disk drive 318 in one embodiment of the present invention, may initially detect whether motion has been identified as indicated in diamond 402. This may be accomplished by depacketizing the packetized frames received from the digital imaging device and motion detector 10. In particular, the bit indicative of motion, that has been incorporated into the video data stream, may be located and detected. If the bit indicates that motion was detected, the system 14 may enter the capture mode as indicated in block 404. In a capture mode, the particular video frame may actually be stored, as one example, on the processor-based system 14, for example on the hard disk drive 318.

After entering the capture mode and storing a particular frame, a check at diamond 406 determines whether motion is still detected. If so, the flow iterates and another frame is captured. Otherwise, the flow ends.

The packetized data from the digital video imaging device and motion detector 10 may be depacketized and displayed line by line on the processor-based system 14. The depacketization may be accomplished by a video driver associated with the processor-based system 14. That

driver may be dedicated to handling the video from the device 10. In one embodiment of the present invention, the header for a particular pixel is decoded to obtain the motion bit. In other embodiments, the motion bit may be associated in a variety of packet headers or payload locations for each frame. See specification at page 7, line 10 through page 8, line 23.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Are Claims 1, 7-9, 11, 16, 17, 19-21, 23, and 25 Anticipated by Ramirez Diaz?

ARGUMENT

A. Are Claims 1, 7-9, 11, 16, 17, 19-21, 23, and 25 Anticipated by Ramirez Diaz?

Claim 1 is as follows:

1. A method comprising:
receiving motion detection information from an infrared motion detector;
capturing a digital representation of a scene in an imaging device;
forming in said imaging device a plurality of packets containing image data and said motion detection information; and
transmitting said packets from said imaging device to a processor-based system over a bus.

Ramirez Diaz does not teach forming packets containing both imaging data and motion detection information. Instead, Ramirez Diaz simply uses motion detection to trigger compression. But nothing in any of the material cited in the office action indicates that the compressed information, assuming it was placed in packets, includes motion detection information.

Ramirez Diaz simply adds information on the camera, number, time, etc. to the same record as the compressed video. He does not form packets including motion detection information. Moreover, Ramirez Diaz does not form the packets in the imaging device itself. Therefore, he does not transmit packets from the imaging device to a processor-based system.

Applicant respectfully requests that each of the final rejections be reversed and that the claims subject to this Appeal be allowed to issue.

Respectfully submitted,

Date: 9/17/04

Timothy N. Trop, Reg. No. 28,994
TROP, PRUNER & HU, P.C.
8554 Katy Freeway, Ste. 100
Houston, TX 77024
713/468-8880 [Phone]
713/468-8883 [Fax]

CLAIMS APPENDIX

The claims on appeal are:

1. A method comprising:

receiving motion detection information from an infrared motion detector;

capturing a digital representation of a scene in an imaging device;

forming in said imaging device a plurality of packets containing image data and said motion detection information; and

transmitting said packets from said imaging device to a processor-based system over a bus.

2. The method of claim 1 including transmitting said packets over a Universal Serial Bus.

4. The method of claim 1 including replacing intensity information in said packet with said motion information.

5. The method of claim 4 including providing a bit in said packet to indicate whether motion was detected.

7. The method of claim 1 including controlling the storage of said digital representation on a processor-based system based on whether motion was detected.

8. The method of claim 1 including replacing image data in one of said packets with said motion detection information.

9. An article comprising a medium storing instructions that, if executed, enable a digital imaging device to:

detect motion within an imaged scene and, in response to the detection of motion, generate motion detection information;

capture a digital representation using an infrared motion detector;

encode said motion detection information in said digital representation; and

transmit said digital representation from said imaging device to a processor-based system over a bus.

10. The article of claim 9 further storing instructions that, if executed, enable the digital imaging device to transmit said digital representation over a Universal Serial Bus.

11. The article of claim 9 further storing instructions that, if executed, enable the digital imaging device to encode said motion detection information in said digital representation in place of image data.

12. The article of claim 11 further storing instructions that, if executed, enable the digital imaging device to replace intensity information in said digital representation with said motion detection information.

13. The article of claim 12 further storing instructions that, if executed, enable the digital imaging device to provide a bit in said digital representation to indicate whether motion was detected.

16. The article of claim 9 further storing instructions that, if executed, enable the digital imaging device to replace image data in one of said packets with said motion detection information.

17. A digital imaging device comprising:

an infrared motion detector;

an imaging element to capture image data representing an image; and

a serial bus interface, coupled to said imaging element and said motion detector, said serial bus interface to form a plurality of packets containing said image data for transmission over a bus, serial bus interface to incorporate information about whether motion was detected by said infrared motion detector into said packets containing said image data.

18. The device of claim 17 wherein said serial bus interface is coupled to a Universal Serial Bus.

19. The device of claim 17 including a processor-based device coupled to the bus, said motion detector, serial bus interface and imaging element also coupled to said bus.

20. The device of claim 17 wherein said serial bus interface forms said image data into packets including both a payload and a header.

21. The device of claim 20 including intensity information in said packets, said intensity information having a least significant bit.

22. The device of claim 21 including replacing said least significant bit with a bit indicating whether motion was detected by said motion detector.

23. A system comprising:

an infrared motion detector coupled to said imaging device;

a digital imaging device, coupled to said detector, said device including a packetizer that converts image data captured by said imaging device into a plurality of packets and inserts into at least one packet data from said infrared motion detector;

a processor-based device; and

a bus coupling said processor-based device and said imaging device.

24. The system of claim 23 wherein said bus is a Universal Serial Bus.

25. The system of claim 23 wherein said packetizer inserts motion data received from said motion detector into packets including said image data.

26. The system of claim 25 wherein said packetizer inserts a bit indicating whether motion was detected into a packet including image data to indicate whether motion was detected in that image data.